

# **U.S. Wireless Ecosystem and The National Broadband Plan**

Presentation to

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February 25, 2010

# FCC National Broadband Plan: Key Principles

- NBP Should Recognize the Important Role that Wireless Broadband Services Play for the Country and the Economy
- NBP Should Not Skew the Broadband Marketplace
- NBP Should Lower Barriers to Investment and Deployment, as well as Facilitate Demand
- NBP Must Maintain Technological Neutrality While Recognizing the Unique Characteristics of Mobile Wireless Broadband

# FCC National Broadband Plan: Key Action Items

- NBP Should Commit to Bringing Significant Additional Spectrum Resources To Market for Licensed Commercial Wireless Broadband
- NBP Should Reduce Barriers to Deployment By Addressing Infrastructure Siting Issues
- NBP Should Confirm the Importance of Clearing Existing Spectrum Resources
- NBP Should Chart Course for Universal Service Reform to Reflect Consumer Demand for Mobile Broadband Services
- NBP Should Resist Calls for Burdensome Net Neutrality Mandates

# NBP Should Recognize the Important Role of Wireless Broadband Services

- United States Wireless Ecosystem Leads The World By Virtually Any Measure:
  - U.S. Consumers Pay Less for their Wireless Service
    - Lowest revenue per minute of OECD countries. Average revenue per minute is nearly 65% lower than the average European country.
  - U.S. Consumers Rely Heavily on Wireless Service
    - Most minutes of use (MOUs) of OECD countries – 830 MOUs per month in Q1 2009.
    - ~3x MOUs of the highest ranked European country (France).
    - ~3x MOUs of the highest ranked Asian country (Korea).
  - U.S. Consumers Are Embracing Innovative Mobile Internet Services
    - More mobile Internet users than any other country.
    - Largest number of diverse handsets.
  - U.S. Has Lowest Market Concentration (HHI) of OECD countries
    - >95% of the U.S. population can choose from at least 3 competing carriers.

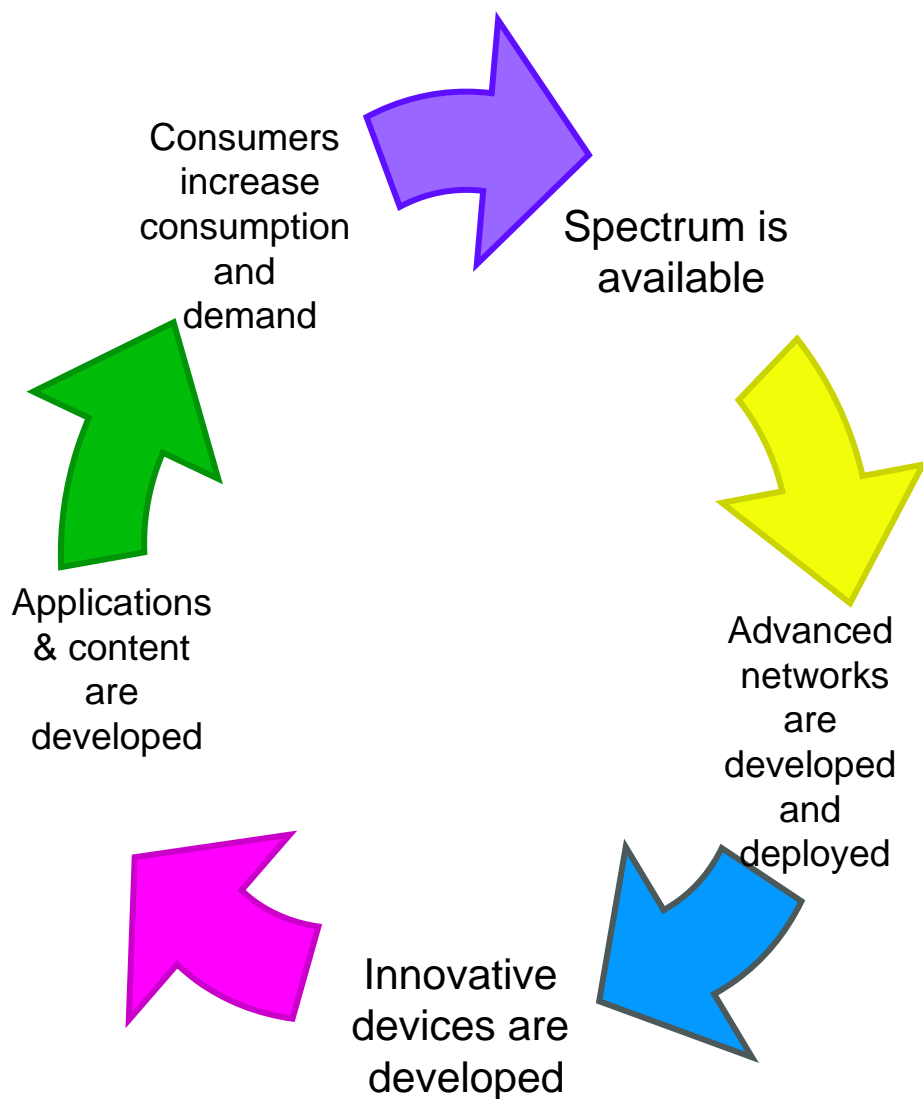
# U.S. Wireless Industry Makes Significant Economic Contributions

- Growth: Wireless economic contributions have grown faster (16%) than the rest of the economy (3%).
- Jobs: More than 2.4 million are either directly or indirectly dependent on the U.S. wireless industry.
- Capital Investment: Carriers reported an average combined capital investment of \$22.8 billion per year from 2001-2008 to upgrade their networks -- ranging from adding new cell towers to R&D (does not include cost of spectrum).
- Overall economic contribution: Wireless services provide \$100 billion in “value added” contributions to the U.S. GDP annually.
- Policy Priorities: Wireless services drive economic productivity, innovation, and critical Administration goals.
  - For example, wireless communications services are becoming a critical component of healthcare reform, energy efficiency, smart transportation efforts and education.

# The Evolving U.S. Wireless Ecosystem

- **Carriers**
  - Four nationwide providers.
  - Multiple regional providers and new entrants.
  - Over 100 licensees in total.
- **Infrastructure Suppliers**
  - Leading world in deployment of 3<sup>rd</sup> & 4<sup>th</sup> Generation mobile broadband networks through companies such as Alcatel-Lucent, Avaya, Cisco, Ericsson, Motorola, Nokia Siemens, Qualcomm.
- **Device Manufacturers**
  - 630 different handsets/devices manufactured by 32 companies for U.S. market.
  - Some of most advanced handsets launched in U.S. – Apple iPhone, 3G, and 3GS; Google G1 and MyTouch; LG Voyager; Blackberry Storm, Bold, Pearl, and Curve 8900; Samsung Instinct; Palm Pre; Google Nexus One.
- **Operating System Providers**
  - At least 11 different wireless operating systems developed by companies such as Microsoft, Google, Apple, Nokia, RIM, Sun Microsystems, and Palm.
- **Applications Developers and Online Stores**
  - In past 20 months, wireless ecosystem has launched more than 170,000 applications for consumers, creating new jobs and opportunities for developers.

# “Virtuous Cycle”



# NBP Must Bring Additional Spectrum for Licensed Wireless Broadband

- A Crisis is Brewing:
  - Insufficient spectrum is allocated to mobile wireless broadband.
  - Combination of increasing demand, sophisticated devices, and bandwidth-intensive applications drives need for additional spectrum. Increases in carrier efficiency alone will not meet demand.
  - Historically process has taken years to conclude (e.g., Advanced Wireless Services took upward of 8 years).
- Spectrum is Needed to Fuel the Wireless “Virtuous Cycle”
  - Without additional spectrum, the applications, speed, devices and other innovations of the wireless industry – along with corresponding productivity increases for U.S. economy – could be in jeopardy.
  - Without more spectrum, the innovative services, job creation, and productivity increases of the wireless ecosystem are put at risk.
  - More than 100 companies – with annual revenues in excess of \$625 billion and more than 1 million U.S. employees – have called for additional spectrum.



# Meeting U.S. Wireless Spectrum Needs

- **Commitment to Wireless Future:**
  - Other countries have made major commitments to mobile wireless broadband.
    - U.S. trails global competitors in spectrum allocated for mobile broadband.
  - CTIA has called on U.S. policymakers to identify and reallocate an additional 800 MHz of spectrum for licensed commercial wireless use.
  - Spectrum must be in large chunks and with appropriate characteristics.
- **Policymakers must look at Federal and Non-Federal Spectrum**
  - Government leadership needed to re-allocate or re-zone spectrum from Federal Government and other commercial/state and local uses to mobile wireless broadband.
  - For example, policymakers should allocate readily-available, internationally harmonized spectrum in the 1755-1780 MHz band for licensed commercial use.
  - Spectrum Inventory: CTIA supports legislation for a robust review of who's using what spectrum and where there's available spectrum.
- **Policymakers Must Act Now**
  - Process takes time and leadership at the highest levels.
  - Without swift and bold action, U.S. consumers and businesses will be unable to reap the full benefits of the mobile broadband age.



USA



Japan



Germany



U.K.



France



Italy



Canada



Spain



S. Korea



Mexico

	USA	Japan	Germany	U.K.	France	Italy	Canada	Spain	S. Korea	Mexico
<b>Subscribers**</b>	<b>270.3m</b>	<b>110.6m</b>	<b>107.0m</b>	<b>76.8m</b>	<b>57.5m</b>	<b>89.9m</b>	<b>21.7m</b>	<b>53.1m</b>	<b>46.2m</b>	<b>79.4m</b>
<b>Average Consumers' Minutes of Use per Month**</b>	<b>830</b>	<b>134</b>	<b>102</b>	<b>193</b>	<b>251</b>	<b>128</b>	<b>420</b>	<b>149</b>	<b>306</b>	<b>170</b>
<b>Average Revenue per Minute – A Measure of the Effective Price per Voice Minute**</b>	<b>\$0.05</b>	<b>\$0.25</b>	<b>\$0.15</b>	<b>\$0.10</b>	<b>\$0.14</b>	<b>\$0.15</b>	<b>\$0.08</b>	<b>\$0.19</b>	<b>\$0.07</b>	<b>\$0.06</b>
<b>Efficient Use of Spectrum -- Subscribers Served per MHz of Spectrum Allocated</b>	<b>660,073</b>	<b>314,985</b>	<b>350,819</b>	<b>217,687</b>	<b>153,497</b>	<b>288,696</b>	<b>105,853</b>	<b>148,324</b>	<b>198,283</b>	<b>661,666</b>
<b>Spectrum Assigned for Commercial Wireless Use</b>	<b>409.5 MHz*</b>	<b>347 MHz</b>	<b>305 MHz</b>	<b>352.8 MHz</b>	<b>374.6 MHz</b>	<b>311.4 MHz</b>	<b>205 MHz</b>	<b>358 MHz</b>	<b>233 MHz</b>	<b>120 MHz</b>
<b>Potentially Usable Spectrum/In the Pipeline***</b>	<b>50 MHz</b>	<b>165 MHz</b>	<b>340 MHz</b>	<b>355 MHz</b>	<b>72 MHz</b>	<b>254 MHz</b>				<b>120 MHz</b>

\*Figure includes AWS-1, 700 MHz spectrum not yet in use and 55.5 MHz of spectrum at 2.5 GHz.

\*\* Glen Campbell, et al., "Global Wireless Matrix 1Q09," Merrill Lynch, June 25, 2009, at Table 1.

\*\*\*Complete information on "pipeline" spectrum was not available for all countries at the time of filing/publication.

# **NBP Should Reduce Barriers to Investment By Addressing Infrastructure Siting Issues**

- **FCC Took a Positive and Important Step in Streamlining Tower Siting Process**
  - FCC Correctly Identified that an Efficient Tower Siting Review Process is Key to Continued Broadband Deployment
  - FCC Correctly Found that the Tower Siting Review Process Resulted In Unreasonable Delay in Many Cases
  - FCC Should Reject Proposals to Overturn this Important Decision
- **FCC Should Take Steps to Facilitate Pole Attachment Process**
  - FCC Should Ensure Wireless Providers' Rights to Access and Protection Under Section 224 of the Act.
  - FCC Should Set a Unified Rate for All Broadband Providers at the lowest possible rate while still providing pole owners just compensation.
  - FCC Should Establish a Presumption for Space Used by a Wireless Attachment and Specify that "Usable Space" Includes the Pole Top

# NBP Should Clear Existing Spectrum Resources

- FCC Should Address Interference Concerns
  - Repeaters/Boosters
  - Jammers
- FCC Should Speed Access to Encumbered Spectrum
  - AWS-1
  - WCS

# NBP Should Set Course for USF Reform

- **USF Reform Should Reflect Consumer Demand and Market Reality**
  - The FCC should recognize that ubiquitous mobile wireless service is a key and unfulfilled universal service goal. Approximately 23.2 million U.S. residents and 42% of road miles do not have access to 3G mobile broadband services.
  - Wireless providers currently account for 43% of the USF contribution base.
- **USF Mechanisms Should Enable Consumers To Rely On Mobile Wireless, Wireline, Or Both Technologies**
  - USF mechanisms should not distort consumer choice. For example:
    - Any competitive bidding proposals should apply to all providers.
    - Low Income reforms should be technology neutral.
  - CTIA supports dedicated high-cost funding for deployment, operations and maintenance of mobile broadband networks.
  - During any interim period, FCC should eliminate excessive support for rural ILECs.
  - E-Rate reforms should facilitate mLearning.
- **CTIA Supports Adoption Of A Numbers- And Connections- Based Universal Service Contribution Mechanism**
  - Reform Should Address Low Income Consumers, Family Plans, and Consumers with Prepaid Plans.

# **NBP Should Resist Calls for Burdensome Net Neutrality Mandates**

- **FCC's NPRM Shows No Market Failure**
  - Wireless Marketplace is Robustly Competitive
  - Wireless Providers are Responding to Consumer Demand
- **Predicted Future Harms Have Been Inaccurate in Wireless Ecosystem**
- **Wireless Broadband Networks are Fundamentally Different**
- **Rules Would Have Harmful Consequences**
  - Deter Investment
  - Impede Innovation
- **Proposed Rules Do Not Address the Additional Points of Contact Beyond Carriers that Characterizes the Modern Wireless Ecosystem**